

**LINKAGE BETWEEN KNOWLEDGE MANAGEMENT PRACTICES  
AND LIBRARY USERS' SATISFACTION AT MALAYSIAN UNIVERSITY  
LIBRARIES**

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*Something else an academic education will do for you. If you go along with it any considerable distance, it'll begin to give you an idea what size mind you have. What it'll fit and, maybe, what it won't. After a while, you'll have an idea what kind of thoughts your particular size mind should be wearing. For one thing, it may save you an extraordinary amount of time trying on ideas that don't suit you, aren't becoming to you. You'll begin to know your true measurements and dress your mind accordingly.*

*(J. D. Salinger, Catcher in the Rye)*

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## ABSTRACT

Academic library services have begun to apply various knowledge management (KM) practices in the provision of library services. KM has been developed to enhance the use of organizational knowledge through practices and organizational learning. KM practices include the creation, capture and/or acquisition of knowledge, its retention and organization, its dissemination and re-use, and general responsiveness to the new knowledge. The focus of this research is the assessment of KM practices, particularly creation, acquisition, capture, sharing, recording and preservation, and their effects on Library User's Satisfaction (LUS) in Malaysian university libraries. The objective of this research is the development of a model to enhance KM processes (i.e. Creation, acquisition, capturing, sharing, recording, and preserving) and to improve library users' satisfaction. A quantitative approach in research methodology is employed (e.g. Questionnaire) for the purpose of generating new knowledge and understanding of library concerns. The findings of this research show that the overall KM practice at six Malaysian university libraries is at a high level. The findings from the structural model indicated that two KM processes, namely knowledge creation and acquisition, are not supported in terms of KM practices at Malaysian university libraries. Other KM processes, namely capturing, sharing, recording, and preserving are fully supported towards KM practices in the library. Hence, the major contribution of this research is a model, namely KM Practice-Library User's Satisfaction (KMP-LUS) highlighting six KM processes based on strong Structural Equation Modeling (SEM) fit indices.

## ABSTRAK

Perkhidmatan perpustakaan akademik menawarkan pelbagai amalan Pengurusan Pengetahuan atau *Knowledge Management* (KM) dalam penyediaan perkhidmatannya. KM telah dibangunkan untuk meningkatkan penggunaan pengetahuan organisasi melalui amalan dan pembelajaran organisasi. Amalan KM ini merangkumi penciptaan, penawaran dan/atau perolehan pengetahuan, pengekalan dan organisasi, penyebaran dan penggunaan semula, dan responsif kepada pengetahuan baru. Fokus kajian ini adalah untuk menilai amalan KM iaitu (Penciptaan, perolehan, penawaran, perkongsian, rekod dan pemeliharaan) terhadap kepuasan pengguna perpustakaan (LUS) yang mungkin berlaku di perpustakaan universiti di Malaysia. Objektif kajian ini adalah untuk membangunkan model bagi meningkatkan proses pengetahuan (iaitu Penciptaan, perolehan, penawaran, perkongsian, rekod dan pemeliharaan) serta meningkatkan kepuasan pengguna perpustakaan. Pendekatan kaedah kuantitatif dalam penyelidikan (contohnya, Soal selidik) telah digunakan untuk menilai pengetahuan dan pemahaman yang baru. Selain itu, dapatan kajian ini mendapati bahawa keseluruhan amalan KM di enam buah perpustakaan universiti di Malaysia berada pada tahap tinggi. Penemuan daripada model struktur menunjukkan bahawa kaedah KM, iaitu penciptaan pengetahuan dan perolehan tidak menyokong ke arah amalan KM di perpustakaan universiti di Malaysia. Selain itu, empat proses pengetahuan, iaitu penawaran, perkongsian, rekod dan pemeliharaan disokong sepenuhnya ke arah amalan KM di perpustakaan. Oleh itu, sumbangan utama penyelidikan ini adalah satu model, iaitu *KM Practice – Library User's Satisfaction (KMP-LUS)* yang mengetengahkan enam jenis proses pengetahuan berdasarkan indeks patut dari *Structural Equation Modeling (SEM)*.

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## LIST OF SYMBOLS AND ABBREVIATIONS

EFA	-	Exploratory Factor Analysis
CFA	-	Confirmatory Factor Analysis
SEM	-	Structural Equation Modeling
$P$	-	Significant Value
$r$	-	Pearson Correlation Coefficient
Chisq/df	-	Chi Square/Degree of Freedom
GFI	-	Goodness of Fit Index
NFI	-	Normed Fit Index
CFI	-	Comparative Fit Index
RMSEA	-	Root Mean Square of Error Approximation
KMP	-	Knowledge Management Practice
LUS	-	Library User's Satisfaction
LIS	-	Library and Information Science

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PTTA UTHM  
PERPUSTAKAAN TUNKU TUN AMINAH

## CHAPTER 1

### INTRODUCTION

#### 1.0 Overviews

At the moment in time, knowledge and information have become key resources. These key resources are vital for the survival and preservation of any organization. This is because when faced with competition and increasingly dynamic environments, organizations are beginning to realize that there is a vast and largely untapped asset in the form of knowledge floating around them. This phenomenon occurs not only in worldwide business organizations but also in non-profit organizations such as university libraries. Libraries serve as information centers providing all kinds of learning resources (Wang *et al.* 2009). Huang (2007) noted that the academic library serves as both the document and information center of the university. The main mission of an academic library is to provide document and information support for teaching and research within the university. Reader categories in the academic library include professors, researchers, undergraduates, postgraduates and other personnel in the university. According to Huang (2007) and Wang *et al.* (2009), these readers share some common characteristics:

- a) Their cultural and civilization level is high.
- b) Their document requirements and requests for documents and information are clear and explicit.
- c) Their service demand is greater, as they understand service standards.
- d) They appreciate library history, characteristics, and current condition of the library better and therefore are better to comprehend the quality of the library service.

Recently, the conventional function of academic libraries is to collect, process, disseminate, store, and utilize information which are used to provide service to the university community (Maponya, 2004; Rajurkar, 2011). However, the environment in which academic libraries operate today is changing (Wang *et al.* 2009). Whatever affects a university activity will also affect the academic libraries (Wang *et al.*, 2009). Foo *et al.* (2002) stated that the role of an academic library is changing to provide a competitive advantage to both university staff and students.

Traditionally, users must enter a library in person to request services such as borrowing/returning books, utilizing a reference directory, interlibrary loan, document delivery, or making a query of relevant collections of resources (Wang *et al.* 2009). Numerous studies have demonstrated that the core of the library service is users-oriented and must meet user demands and expectations (Huang, 2007; Macewan, 1999; Millson-Martula & Menon, 1995). Successful KM in libraries depends on their ability to utilize information and knowledge of its staff to better serve the organizational needs and their users' satisfaction.

Knowledge Management (KM) has been defined as a “process or practice of creating, acquiring, capturing, sharing, and using knowledge, wherever it resides, to enhance learning and performance in organizations’ (Skyrme & Amidon, 1997). Brendan (1999) broadly stated that KM is a process of acquisition, sharing, and usage of knowledge within organizations, including learning processes and management information systems (MIS) or, more specifically, the explicit and systematic management of vital knowledge associated with processes of creating, gathering, organizing, diffusing, use, and exploitation.

Tasmin and Woods (2007) noted that KM is a socio-technological based system that supports collaboration and integration among interlocking organizational functions to create more innovative and value-added products and services for the market. On a similar note, White (2004) defined KM as “a process of creating, storing, sharing and re-using organizational knowledge (know-how) to enable an organization to achieve its goals and objectives”. Darroch (2003) stated that KM is a process comprising of knowledge acquisition, dissemination, and use. However, Jain (2007) defined KM as the process or practice of creating, acquiring, capturing, sharing, and using knowledge.

In fact, KM is a dynamic and cyclical process which involves the entire organization's processes by trying to map existent learning, while linking the essential processes and their strategies in search of better organizational performance, development of the products and services, quality and client's management among others (Castroa & Costab, 2006; Wiig, 1997; Davenport & Prusak, 1998). This requires systems for the creation and maintenance of knowledge repositories, as well as cultivation and facilitation of the sharing of knowledge and organizational learning.

Townley (2001) discussed four KM processes, which were creation of a knowledge repository, improve knowledge access, enhance knowledge environment, and manage knowledge as an asset. Townley (2001) stated that "KM is based on assumptions of strategic planning". Zack (1998) and White (2004) hold similar opinions and view knowledge as a strategic resource. Organizations that succeed in KM are more likely to view knowledge as an asset and develop organizational norms and values which support the creation and sharing of knowledge (Rowley, 1999).

This is both strategic and action oriented. In the context of this study, academic libraries refer to only university libraries. In order to demonstrate their relevance and value, academic libraries must strive to provide the right amount of information to the right client at the right time with a right expense of financial and human resources (Wen, 2005). With a stagnant or dwindling library budget, academic libraries must increase their operational efficiency in order to meet these challenges. One management tool that can help in this regard is KM. Therefore, implementing KM in academic libraries is mainly driven by its mission rather than by the competition from Internet-based reference services or electronic books. From the above definitions, it is clear that KM does not consist of only tacit knowledge as indicated in some KM literature. In fact KM comprises both tacit and explicit knowledge, which are complementary. Therefore, KM can be characterized as follows:

- The core processes of several activities, such as creating, acquiring, capturing, sharing, using and re-using knowledge;
- It includes both explicit and tacit knowledge;
- It is an ongoing activity;
- Information is the building block of KM;

- It is action oriented or application based; and,
- The main drive behind KM is to improve organizational performance.

In this regard, KM is a process of creating, acquiring, capturing, sharing, recording and preserving all knowledge activities in the academic libraries. These continuous KM processes must be carried out from time to time to make sure that all knowledge in the library can be used and does not become obsolete.

### **1.1 Research Background**

Since the announcement of Vision 2020, the concept of the knowledge economy has become prominent across Malaysia. Knowledge management, however, only began to make a significant impact at the turn of the century. InfoSoc Malaysia 2000, a major conference held in Sarawak, and the Second Global Knowledge Conference, held in Kuala Lumpur 7 – 10th March the same year, have been said to be the event that was largely responsible for this. At the opening of the Second Global Knowledge Conference, the then Honorable Prime Minister of Malaysia, Dato Seri Dr. Mahathir bin Mohamad noted that;

“... In the Information Age which we enter, our society must be information rich... this country must most seriously enhance the production and supply of information, knowledge and wisdom and ensure their accessibility to all our people in every area of work.”

In Malaysia, interest in KM practices is still growing, especially among Malaysian universities. Stoffle (1996) stressed that the institutions of higher education must gear up for a massive increase in demand for educational services. Hawkins (2000) stated that collaboration requires actual commitment and investment of resources based on a shared vision. As a result, universities may be required to pool their resources in terms of human expertise, skills and competencies to achieve their goals (Hawkins, 2000).

The truth is that big multinational companies still lead the way, but a number of the country's large corporations are beginning to take their steps down the KM road. KM is also creeping into the government agenda, affecting both the government's vision for the country as a whole and the way ministerial departments operate on a day-to-day basis (Hamid & Nayan, 2005).

Nowadays, universities are faced with challenges to create and disseminate knowledge to society. Traditionally, universities have been the sites of knowledge production, storage, dissemination, and authorization (Reid, 2000). Universities and other higher education institutions face similar challenges that many non-profit and for-profit organizations face. The challenges are financial, increasing public demand, accountability, rapidly-evolving technologies, changing staff roles, diverse student demographics, competing values, and a rapidly changing world (Naidoo, 2002).

Navarro *et al.* (2005) stated that in a university environment, the concept of customer is not clearly defined, making these institutions difficult to manage from a marketing point of view. A review of specialized literature shows the existence of various groups that can be categorized as customers of university institutions namely students, employers, families and society. In spite of this diversity, there is a consensus that students are the main customers of these institutions. However, university libraries need to share information and knowledge within the academic community as well as the society outside the institution.

KM practice has become a key issue in universities due to changes in knowledge culture (Maponya, 2004). Santo (2005) highlighted that little has been written about KM in education. It must be noted that universities are not isolated entities but exist as part of society. This is because they engage in teaching, research, and community services (Maponya, 2004; Santo, 2005).

Therefore, KM practices developed in the university through research and teaching should be relevant to the society, and promoting knowledge must act as a major factor of business of the university and higher education institutions. These demands call for the development of partnership universities and curricula which are customized to meet user needs.



## 1.2 Problem Statement

A large number of studies have been conducted in different countries on the satisfaction of library users'. This is a fact as library user studies are a vital aid for effective decision making, improving library facilities and information services in academic libraries (Sriram & Rajev, 2014; Thenmozhi & Gopalakrishnan, 2014). However, the problem found in this study indicate that most evaluative studies on library user satisfaction have always concentrated on students' use of facilities, collections and services (Sarrafzadeh, Martin, & Hazeri, 2010; Townley, 2001; Yaacob, Jamaluddin, & Jusoff, 2011), but few studies have been carried out regarding knowledge processes (i.e. Creation, acquisition, capturing, sharing, recording and preserving) in terms of KM practices. Other researchers recognized that failing to satisfy the user is failing to serve the user need and satisfaction (Stamatoplos & Mackoy, 1998). Through a review of user satisfaction reports, the study has found a wealth of evidence and problems dealing with user satisfaction at Malaysian university libraries and potential barriers in relation to its adoption. The first problem reported that a small minority of participants in the present studies regard KM as solely a business phenomenon and found no direct relevance to the libraries (Sarrafzadeh *et al.*, 2010). If a library implements part of the KM project, do library professionals need to understand the extent to which libraries can really take responsibility for KM practices? There is a need to understand what really entice the KM practices towards library user satisfaction and also a need to identify the significant process that can affect their intention to pertain KM practices. As such, research has identified a gap in terms of research conducted in different geographical locations. In an attempt to comprehend the problems confronted by the university libraries, Sarrafzadeh *et al.* (2010) remarked that a portion of the respondents expressed that KM does not happen only in the library, but also in the organization. All library efforts are aimed at developing better services; in any case, KM practices still remain an issue (Krishnan & Das, 2012; Tandale, Sawant, & Tandale, 2011; Townley, 2001) which has been neglected by university libraries in terms of user satisfaction. The participants believed that library may implement or be part of the KM project, but it cannot be isolated from the rest of the organization (Sarrafzadeh *et al.*, 2010).



## REFERENCES

- Aamodt, A., & Nygård, M. (1995). Different roles and mutual dependencies of data, information, and knowledge—an AI perspective on their integration. *Data & Knowledge Engineering*, 16(3), 191-222.
- Abdolshah, M., & Abdolshah, S. (2011). Barriers to the Implementation of Knowledge Management in Iranian Institutions. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 2(2), 173-182.
- Agboola, A. (2000). Five decades of Nigerian university libraries: A review. *Libri*, 50(4), 280-289.
- Aharony, N. (2011). Librarians' Attitudes toward Knowledge Management. *College & Research Libraries*, 72(2), 111-126.
- Ahumada Figueroa, L., & Bustos, A. (2006). Management of Knowledge, Information and Organizational Learning in University Libraries. *Libri*, 56(3), 1-12.
- Ajiferuke, I. (2003). Role of information professionals in knowledge management programs: empirical evidence from Canada. *Informing Science: International Journal of an Emerging Transdiscipline*, 6, 247-257.
- Akhavan, P., Ghojavand, S., & Abdali, R. (2012). Knowledge Sharing and its Impact on Knowledge Creation. *Journal of Information & Knowledge Management*, 11(02), 1-12.
- Al-Azmi, M., & Zairi, M. (2005). Knowledge Management: A proposed taxonomy. *International Journal of Applied Quality Management*, 2(2), 1-23.
- Al-Nasser, A. D. (2003). Customer satisfaction measurement models: Generalised Maximum Entropy approach. *Pakistan Journal of Statistics*, 19(2), 213-226.
- Alavi, M., Kayworth, T. R., & Leidner, D. E. (2006). An empirical examination of the influence of organizational culture on knowledge management practices. *Journal of management information systems*, 22(3), 191-224.

- Alavi, M., & Leidner, D. E. (1999). Knowledge management systems: Issues, challenges, and benefits. *Communications of the AIS*, 1, 1-37.
- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107-136.
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: findings from Sweden. *The Journal of Marketing*, 58(July), 53-66.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.
- Anderson, R. (1996). *The eternity service*. Paper presented at the Proceedings of Pragocrypt '96, Prague.
- Ani, O. E., Esin, J. E., & Edem, N. (2005). Adoption of information and communication technology (ICT) in academic libraries: a strategy for library networking in Nigeria. *Electronic Library, The*, 23(6), 701-708.
- Anwar, M. A. (1981). Education of the User of Information. *Unesco Bulletin for Libraries*, 32(13), 355.
- Arabshahi, M., Lagzian, M., Rahimnia, F., & Kafashpor, A. (2013). An empirical investigation on relationship between organizational intelligence and faculty members & quot; knowledge sharing behaviors. *Management Science Letters*, 3(11), 2815-2822.
- Arsenijevic, J. (2011). Methodology for assessment of knowledge management in higher education institutions. *African Journal of Business Management*, 5(8), 3168-3178.
- Association, A. L. (2006). Standards for libraries in higher education. Retrieved February. 21, from <http://www.ala.org/acrl/standards/standardslibraries>
- Awang, Z. (2012). *Structural Equation Modeling Using Amos Graphic*: UiTM Press.
- Babbie, E. (2011). *Introduction to social research* (5th ed.): Belmont Wadsworth.
- Babin, B. J., & Svensson, G. (2012). Structural equation modeling in social science research: Issues of validity and reliability in the research process. *European Business Review*, 24(4), 320-330.
- Bailey Jr, C. W. (2005). The role of reference librarians in institutional repositories. *Reference Services Review*, 33(3), 259-267.

- Bailey Jr, C. W. (2008). Open access and libraries. *Collection Management*, 32(3-4), 351-383.
- Bakar, A. B. A., & Bakeri, A. (2009). *Education for digital libraries in Asian countries*. Paper presented at the Asia-Pacific Conference on Library & Information Education & Practice.
- Ball, K., & Detlor, B. (2014). *Deciphering Customer Perceptions of Academic Library Features*. Paper presented at the Proceedings of the Annual Conference of the Canadian Association for Information Science.
- Banks, E. (1999). Creating a knowledge culture. *Work Study*, 48(1), 18-20.
- Bantin, P. C. (1998). Strategies for managing electronic records: a new archival paradigm? An affirmation of our archival traditions? *Archival issues*, 23(1), 17-34.
- Baringhaus, L., & Franz, C. (2004). On a new multivariate two-sample test. *Journal of Multivariate Analysis*, 88(1), 190-206. doi: [http://dx.doi.org/10.1016/S0047-259X\(03\)00079-4](http://dx.doi.org/10.1016/S0047-259X(03)00079-4)
- Baxter, D., Gao, X., & Roy, R. (2008). Design process knowledge reuse challenges and issues. *Computer-Aided Design and Applications*, 5(6), 942-952.
- Bearman, D. (1994). *Electronic evidence*. Pittsburgh: Archives & Museum Informatics
- Beins, B. (2009). *Research methods: A tool for life*. New York: Allyn & Bacon.
- Bennet, A., & Bennet, D. (2004). The partnership between organizational learning and knowledge management. *Handbook on knowledge management*, 1, 439-460.
- Bharati, P., & Chaudhury, A. (2004). An empirical investigation of decision-making satisfaction in web-based decision support systems. *Decision Support Systems*, 37(2), 187-197.
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*. Zurich, Switzerland: Global Text Project.
- Bitner, M. J., & Hubbert, A. R. (1994). Encounter satisfaction versus overall satisfaction versus quality. *Service quality: New directions in theory and practice*, 72-94.
- Blair, D. C. (2002). Knowledge management: hype, hope, or help? *Journal of the American Society for Information Science and Technology*, 53(12), 1019-1028.

- Block, J. (1961). *The Q-sort method in personality assessment and psychiatric research*. Charles C Thomas Publisher: Springfield.
- Blumentritt, R., & Johnston, R. (1999). Towards a strategy for knowledge management. *Technology Analysis & Strategic Management*, 11(3), 287-300.
- Borglund, E. A. M. (2008). *Design for Recordkeeping: Areas of Improvement*. Doctoral Thesis 52, Mid Sweden University, Sundsvall.
- Borglund, E. A. M., & Öberg, L. M. (2008). How are records used in organizations? *Information research*, 13(2), 2. <http://informationr.net/ir/13-2/paper341.html>
- Bose, R. (2004). Knowledge management metrics. *Industrial Management & Data Systems*, 104(6), 457-468.
- Bouthillier, F., & Shearer, K. (2002). Understanding knowledge management and information management: the need for an empirical perspective. *Information research*, 8(1), 8-1.
- Brady, M. K., & Robertson, C. J. (2001). Searching for a consensus on the antecedent role of service quality and satisfaction: An exploratory cross-national study. *Journal of Business Research*, 51(1), 53-60.
- Branin, J. J. (2003a). Institutional repositories *Encyclopedia of Library and Information Science* (pp. 1-22): Ohio State University Libraries.
- Branin, J. J. (2003b). Knowledge management in academic libraries. *Journal of library administration*, 39(4), 41-56.
- Brendan, L. (1999). Knowledge management, librarians and information managers: fad or future? *New Library World*, 100(6), 245-253.
- Broadbent, M. (1998). The phenomenon of knowledge management: what does it mean to the information profession? *Information Outlook*, 2(5), 23-37.
- Broady-Preston, J., & Preston, H. (1999). Demonstrating quality in academic libraries. *New Library World*, 100(3), 124-129.
- Brothman, B. (2002). Afterglow: Conceptions of record and evidence in archival discourse. *Archival science*, 2(3), 311-342.
- Brown, C. (1998). Customer satisfaction, what is it? *Quality Times*, 24(12), 19-24.
- Brown, W. A., & Yoshioka, C. F. (2003). Mission attachment and satisfaction as factors in employee retention. *Nonprofit Management and Leadership*, 14(1), 5-18.
- Budd, J. M. (1998). *The Academic Library: Its Context, Its Purpose, and Its Operation*. Englewood, Colorado: Libraries Unlimited.

- Burns, R. B. (2000). *Introduction to research methods* (4th ed.). Melbourne: Longman.
- Burton, D. (2000). *Research training for social scientists: A handbook for postgraduate researchers*. London: Sage Publications.
- Byosi, P., & Luethge, D. (2004). Realizing vision through envisioning reality: Strategic leadership in building knowledge spheres. *Leading in Turbulent Times: Managing in the New World of Work*, Blackwell Publishing, Malden, MA, 243-258.
- Caloghirou, Y., Kastelli, I., & Tsakanikas, A. (2004). Internal capabilities and external knowledge sources: complements or substitutes for innovative performance? *Technovation*, 24(1), 29-39.
- Castro, G., & Costab, M. D. (2006). University library knowledge management: a diagnostic tool. from [www.instac.es/inscit2006/papers/pdf/396.pdf](http://www.instac.es/inscit2006/papers/pdf/396.pdf)
- Che Rusuli, M. S., Tasmin, R., & Norazlin, H. (2010). *Knowledge sharing practice in organization*. Paper presented at the International Conference on Teaching & Learning in Higher Education (ICTLHE 2011), Malacca.
- Chen, F., & Burstein, F. (2006). *A dynamic model of knowledge management for higher education development*. Paper presented at the Education and Training.
- Choi, B., & Lee, H. (2002). Knowledge management strategy and its link to knowledge creation process. *Expert systems with applications*, 23(3), 173-187.
- Choo, C. W. (1996). The knowing organization: how organizations use information to construct meaning, create knowledge and make decisions. *International Journal of Information Management*, 16(5), 329-340.
- Choo, C. W. (2000). Working with knowledge: how information professionals help organisations manage what they know. *Library Management*, 21(8), 395-403.
- Chou, C. P., & Bentler, P. M. (1995). *Estimates and tests in structural equation modeling*. Thousand Oaks: Sage Publications.
- Choy, F. C. (2007). Libraries and librarians—what next? *Library Management*, 28(3), 112-124.
- Chweya, L., Ochieng, I., Ojera, P., & Riwo-Abudho, M. (2014). Knowledge Management Practices and its Effect on Firm Performance: A Case of



- Commercial Banks' Performance in Kisumu City, Kenya. *European Journal of Business and Management*, 6(8), 87-94.
- Claycomb, C., Dröge, C., & Germain, R. (2002). Applied product quality knowledge and performance: Moderating effects of uncertainty. *International Journal of Quality & Reliability Management*, 19(6), 649-671.
- Coffman, E. J. (2010). Is Justified Belief Knowledge? Critical Notice of Jonathan Sutton, Without Justification. *Philosophical Books*, 51(1), 1-21.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, 35(1), 128-152.
- Conklin, J. (1996). Designing organizational memory: Preserving intellectual assets in a knowledge economy. *Group Decision Support Systems*, 1, 362.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage Publications.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin*, 52(4), 281.
- Crowley, B. (2001). Tacit knowledge, tacit ignorance, and the future of academic librarianship. *College & Research Libraries*, 62(6), 565-584.
- Cunningham, W. A., Preacher, K. J., & Banaji, M. R. (2001). Implicit attitude measures: Consistency, stability, and convergent validity. *Psychological science*, 12(2), 163-170.
- Daneshgar, F., & Bosanquet, L. (2010). Organizing Customer Knowledge in Academic Libraries. *Electronic Journal of Knowledge Management*, 8(1), 21-32.
- Daneshgar, F., & Parirokh, M. (2007). A knowledge schema for organisational learning in academic libraries. *Knowledge Management Research & Practice*, 5(1), 22-33.
- Darroch, J. (2003). Developing a measure of knowledge management behaviors and practices. *Journal of Knowledge Management*, 7(5), 41-54.
- Dash, N. K. (2005). Module: Selection of the Research Paradigm and Methodology. Retrieved March 4, 2013, from [http://www.celt.mmu.ac.uk/researchmethods/Modules/Selection\\_of\\_methodology/index.php](http://www.celt.mmu.ac.uk/researchmethods/Modules/Selection_of_methodology/index.php)

- Davenport, E., & Hall, H. (2002). Organizational knowledge and communities of practice. *Annual review of information science and technology*, 36(1), 171-227.
- Davenport, R. (2005). Why does knowledge management still matter. *T & D*, 59(2), 18-25.
- Davenport, T. H., De Long, D. W., & Beers, M. C. (1998). Successful knowledge management projects. *Sloan management review*, 39(2), 43-57.
- Davenport, T. H., & Prusak, L. (1997). *Information ecology: Mastering the information and knowledge environment*. USA: Oxford University Press.
- Davenport, T. H., & Prusak, L. (2002). Working knowledge: How organizations manage what they know. *Boston MA, USA: Harvard Business*.
- David, L., & Jane, K. (2000). Knowledge management in small enterprises. *Electronic Library, The*, 18(6), 420-433.
- Davis, C. (2008). Librarianship in the 21st Century—Crisis or Transformation? *Public library quarterly*, 27(1), 57-82.
- Deeds, D. L., & Decarolis, D. M. (1999). The impact of stocks and flows of organizational knowledge on firm performance: An empirical investigation of the biotechnology industry. *Strategic management journal*, 20, 953–968.
- Demarest, M. (1997). Understanding knowledge management. *Long range planning*, 30(3), 374-384.
- Demarest, M. (2001). Knowledge management: an introduction. *Long range planning*, 30, 1-23.
- Dewe, A. (2005). *Knowledge leadership in a university context*. Paper presented at the Proceedings of Educause Australasia.
- Dougherty, V. (1999). Knowledge is about people, not databases. *Industrial and Commercial Training*, 31(7), 262-266.
- Ducas, A. M., & Michaud-Ostryk, N. (2003). Toward a New Enterprise: Capitalizing on the Faculty–Librarian Partnership. *College & Research Libraries*, 64(1), 55-74.
- Edwards, S., & Browne, M. (1995). Quality in information services: do users and librarians differ in their expectations? *Library & information science research*, 17(2), 163-182.

- Egwunyenga, E. J. (2009). Record Keeping in Universities: Associated Problems and Management Options in South West Geo-Political Zone of Nigeria. *International Journal of Education Science*, 1, 109-113.
- Eklof, S., & Hellberg, T. (2009). *Strengthening the relationship between librarians and library users: A study of librarians' and library users' views on librarianship, services and resources at the Library of National University of Rwanda*. University of Borås Swedish
- Elliott, K. M., & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, 24(2), 197-209.
- Emadzade, M. K., Mashayekhi, B., & Abdar, E. (2012). Knowledge management capabilities and organizational performance. *Interdisciplinary Journal of Contemporary Research in Business*, 3(11), 781-790.
- Fagbola, O., Uzoigwe, C., & Ajegbomogun, V. O. (2011). Libraries Driving Access to Knowledge in the 21st Century in Developing Countries: An Overview. *Library Philosophy and Practice*, August, 1-7.
- Faisal, S., Attfield, S., & Blandford, A. (2009). *A Classification of Sensemaking Representations*. Paper presented at the CHI 2009 Workshop on Sensemaking.
- Fawzy, S., & Keri, S. (2000). Strategies for implementing knowledge management: role of human resources management. *Journal of Knowledge Management*, 4(4), 337-345.
- Fayers, P. M., & Hays, R. D. (2005). *Assessing quality of life in clinical trials: methods and practice* (2nd Ed.). UK: Oxford University Press.
- Ferdows, K., & De Meyer, A. (1990). Lasting improvements in manufacturing performance: in search of a new theory. *Journal of Operations management*, 9(2), 168-184.
- Ferguson, K. S. (2009). Information literacy and its relationship to knowledge management: A theoretical study. *Journal of Information Literacy*, 3(2), 6-24.
- Ferguson, S., Hider, P., & Lloyd, A. (2008). Are librarians the ultimate knowledge managers? A study of knowledge, skills, practice and mindset. *Australian Library Journal*, 57(1), 39.
- Ferguson, S., Hider, P., Lloyd, A., & Kelly, P. (2005). *The state of knowledge. Conceptualising knowledge management for LIS practitioners and*



- educators*'. Paper presented at the Research Applications in Information and Library Studies Seminar.
- Floridi, L. (2002). On defining library and information science as applied philosophy of information. *Social epistemology*, 16(1), 37-49.
- Foo, S., Chaudhry, A., Majid, S., & Logan, E. (2002). *Academic libraries in transition: Challenges ahead*. Paper presented at the Academic Library Seminar, National Library Board, Singapore.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. *The Journal of Marketing*, 7-18.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing research*, 18(1), 39-50.
- Foss, N. J., & Mahnke, V. (2003). Knowledge Management What Can Organizational Economics Contribute? : DRUID, Copenhagen Business School, Department of Industrial Economics and Strategy/Aalborg University, Department of Business Studies.
- Fossey, E., Harvey, C., McDermott, F., & Davidson, L. (2002). Understanding and evaluating qualitative research\*. *Australian and New Zealand journal of psychiatry*, 36(6), 717-732.
- Fowler, F. J. (2009). *Survey research methods* (4th ed.). London: Sage Publications.
- Furlong, N., Lovelace, E., & Lovelace, K. (2000). *Research Methods And Statistics: An Integrated Approach*. Orlando: Harcourt Brace & Company.
- Gan, G. G. G., Ryan, C., & Gururajan, R. (2006). The effects of culture on knowledge management practice: A qualitative case study of MSC status companies. *Kajian Malaysia*, 24, 1.
- Gandhi, S. (2004). Knowledge management and reference services. *The Journal of Academic Librarianship*, 30(5), 368-381.
- García-Marco, F. J. (2011). Libraries in the digital ecology: reflections and trends. *Electronic Library, The*, 29(1), 105-120.
- Garver, M. S., & Mentzer, J. T. (1999). Logistics research methods: employing structural equation modeling to test for construct validity. *Journal of Business Logistics*, 20, 33-58.

- Gayton, J. T. (2008). Academic Libraries. *The Journal of Academic Librarianship*, 34(1), 60-66.
- Gefen, D., Straub, D. W., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. 4, 1-79.
- Gloet, M., & Terziovski, M. (2004). Exploring the relationship between knowledge management practices and innovation performance. *Journal of Manufacturing Technology Management*, 15(5), 402-409.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems*, 18(1), 185-214.
- Gorniak-Kocikowska, K. (2001). Revolution and the Library. *Library trends*, 49(3), 454-470.
- Gourlay, S. (2006). Conceptualizing Knowledge Creation: A Critique of Nonaka's Theory. *Journal of Management Studies*, 43(7), 1415-1436.
- Grant, R. M. (1996). Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization science*, 7(4), 375-387.
- Gray, J. H., & Densten, I. L. (2005). Towards an integrative model of organizational culture and knowledge management. *International Journal of Organisational Behaviour*, 9(2), 594-603.
- Greer, A., Weston, L., & Alm, M. (1991). Assessment of learning outcomes: A measure of progress in library literacy. *College & Research Libraries*, 52(6), 549-557.
- Gremler, D. D., & McCollough, M. A. (2002). Student satisfaction guarantees: An empirical examination of attitudes, antecedents, and consequences. *Journal of Marketing Education*, 24(2), 150-160.
- Grotle, M., Garratt, A. M., Jenssen, H. K., & Stuge, B. (2012). Reliability and construct validity of self-report questionnaires for patients with pelvic girdle pain. *Physical therapy*, 92(1), 111-123.
- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic management journal*, 21(4), 473-496.
- Gupta, S., Kumari, V., & Negi, A. (2007). Knowledge Management in Academic Institute and Role of Knowledge Managers. *Information Science & Technology (READIT-2007)*, 152.

- Gurteen, D. (1999). Creating a knowledge sharing culture. *Knowledge Management Magazine*, 2(5), 1-4.
- Ha, H. Y., & Janda, S. (2008). An empirical test of a proposed customer satisfaction model in e-services. *Journal of Services Marketing*, 22(5), 399-408.
- Haahr, M. (2002). Information jockey: The dubious role of the 21st-century academic. *Southern Review*, 35(2), 71-87.
- Haas, M. R., & Hansen, M. T. (2007). Different knowledge, different benefits: toward a productivity perspective on knowledge sharing in organizations. *Strategic management journal*, 28(11), 1133-1153.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. New Jersey: Pearson University Press.
- Hamid, N. A. A., & Salim, J. (2011). A Conceptual Framework of Knowledge Transfer in Malaysia E-Government IT Outsourcing: An Integration with Transactive Memory System (TMS). *International Journal of Computer Science*, 8(5), 51-64.
- Hamid, S., & Nayan, J. M. (2005). *Preliminary study of knowledge management in a library: a case study of the National Library of Malaysia*. Paper presented at the The International Conference on Libraries, Penang.
- Hamid, S., Nayan, J. M., Bakar, Z. A., & Norman, A. A. (2007). *Knowledge management adoption and implementation readiness: A case study of the National Library of Malaysia*. Paper presented at the The International Conference on Libraries, Information and Society (ICOLIS). Kuala Lumpur.
- Hansen, M. T., Mors, M. L., & Løvås, B. (2005). Knowledge sharing in organizations: Multiple networks, multiple phases. *The Academy of Management Journal*, 48(5), 776-793.
- Harries, S. (2009). Managing records, making knowledge and good governance. *Records Management Journal*, 19(1), 16-25.
- Hasan, H., & Al-hawari, M. (2003). Management styles and performance: a knowledge space framework. *Journal of Knowledge Management*, 7(4), 15-28.
- Hawkins, B. (2000). *Libraries, Knowledge Management, and Higher Education in an Electronic Environment*. Paper presented at the ALIA 2000 Proceedings.

- Heiman, B. A., & Nickerson, J. A. (2004). Empirical evidence regarding the tension between knowledge sharing and knowledge expropriation in collaborations. *Managerial and Decision Economics*, 25(6-7), 401-420.
- Hildreth, P. M., & Kimble, C. (2002). The duality of knowledge. *Information research*. Retrieved 1, 8, from <http://informationr.net/ir/8-1/paper142.html>
- Hom, W. (2000). An Overview of Customer Satisfaction Models: For full text: <http://www.rpgroup.org>.
- Houghton, J., & Poston-Anderson, B. (1998). *Ross Todd'From obsession to power: changing the face of librarians'*. Paper presented at the Pathways to Knowledge, Australian Library and Information Association 5th Biennial Conference and Exhibition, 25-28 October 1998, Adelaide Convention Centre, Adelaide, South Australia.
- Hox, J. J., & Bechger, T. M. (1998). An introduction to structural equation modeling.
- Hox, J. J., & Bechger, T. M. (1998). An introduction to structural equation modeling. *Family Science Review*, 11, 354-373.
- Hsu, S.-H., Chen, W.-H., & Hsueh, J.-T. (2006). Application of customer satisfaction study to derive customer knowledge. *Total Quality Management and Business Excellence*, 17(04), 439-454.
- Huang, R. (2007). Study and analysis of information on the reader's potential discontent in an academic library. *Library Management*, 28(1/2), 27-35.
- Huotari, M., & Iivonen, M. (2005). Knowledge processes: A strategic foundation for the partnership between the university and its library. *Library Management*, 26(6), 324-335.
- Ichijo, K., & Nonaka, I. (2007). *Knowledge creation and management: new challenges for managers*: Oxford University Press, USA.
- Igbeka, J., & Ola, C. O. (2010). The Need for Digitization of Special Library Materials in Nigerian University Libraries. from [http://www.worlib.org/vol18no1/igbekaprint\\_v18n1.shtml](http://www.worlib.org/vol18no1/igbekaprint_v18n1.shtml)
- Ikoja-Odongo, R., & Mostert, J. (2006). Information seeking behaviour: a conceptual framework. *South African journal of Library and Information Science*, 72(3), 145.
- Imhoff, K. R. T., & Maslin, R. (2006). Library Contests: A How to Do It Manual. *Recherche*, 67, 02.

- Islam, M. A., & Ikeda, M. (2014). Convergence issues of knowledge management in digital libraries: steps towards state-of-the-art digital libraries. *VINE*, 44(1), 7-7.
- Islam, T., Kassim, N. A., Ali, G., Sadiq, M., Tuggle, F., & Tuggle, F. (2014). Organizational learning culture and customer satisfaction: the mediating role of normative commitment. *The Learning Organization*, 21(6), 1-19.
- Ismail, H. I. (2006). Access and Preserve. *Kekal Abadi*, 25(1/2), 1-5.
- Jain, P. (2007). An empirical study of knowledge management in academic libraries in East and Southern Africa. *Library review*, 56(5), 377-392.
- Jankowska, M. A., & Marcum, J. W. (2010). Sustainability challenge for academic libraries: planning for the future. *College & Research Libraries*, 71(2), 160-170.
- Jansen, W., Barbera, R., Drescher, M., Fresa, A., Hemmje, M., Ioannidis, Y. E., . . . Stanchev, P. (2013). *e-Infrastructures for Digital Libraries... the Future*. Paper presented at the TPD.
- Janssens, F., Leta, J., Glänzel, W., & De Moor, B. (2006). Towards mapping library and information science. *Information processing & management*, 42(6), 1614-1642.
- Jantz, R. (2001). Knowledge management in academic libraries: special tools and processes to support information professionals. *Reference Services Review*, 29(1), 33-39.
- Jayasingam, S., Ansari, M. A., Ramayah, T., & Jantan, M. (2012). Knowledge management practices and performance: are they truly linked. *Knowledge Management Research & Practice*, 1-10.
- Jie, X., & Zhengang, Z. (2010). Research on the Relationship between Knowledge Management Infrastructure, Knowledge Sharing and Knowledge Management Performance. 1-4.
- Johnson, B., & Shneiderman, B. (1991). *Tree-maps: A space-filling approach to the visualization of hierarchical information structures*. Paper presented at the Proceeding of the 2nd International IEEE Visualization Conference, San Diego.
- Johnson, M. D., Gustafsson, A., Andreassen, T. W., Lervik, L., & Cha, J. (2001). The evolution and future of national customer satisfaction index models. *Journal of economic Psychology*, 22(2), 217-245.



- Jurkowitsch, S., Vignali, C., & Kaufmann, H. (2006). A student satisfaction model for Austrian higher education providers considering aspects of marketing communications. *Innovative Marketing*, 3(Special Edition).
- Kale, S., & Karaman, E. (2012). A diagnostic model for assessing the knowledge management practices of construction firms. *KSCE Journal of Civil Engineering*, 16(4), 526-537.
- Kano, N., Seraku, N., Takahashi, F., & Tsuji, S. (1984). Attractive quality and must-be quality. *Journal of the Japanese Society for Quality Control*, 14(2), 147-156.
- Kara, A., & DeShields, O. (2004). Business student satisfaction, intentions and retention in higher education: An empirical investigation. *Marketing Education Quarterly*, 3(1), 1-25.
- Karadsheh, L., Mansour, E., Alhawari, S., Azar, G., & El-Bathly, N. (2009). A theoretical framework for knowledge management process: towards improving knowledge performance. *Communications of the IBIMA*, 7, 67-79.
- Kasim, R. S. R. (2010). The relationship of knowledge management practices, competencies and the organizational performance of government departments in Malaysia. *International Journal of Human and Social Sciences*, 5(4).
- Kenny, D. A. (2011). Measuring model fit. Retrieved Nov. 13th, 2012, from <http://davidakenny.net/cm/fit.htm>
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioral research*. New York: Harcourt College Publishers.
- Kevin, R. P., Philip, S. N., & Kay, A. F. (2005). Libraries as knowledge management centers. *Library Management*, 26(4), 176-189.
- Khangala, B. N. (2004). *An investigation into the prevalence of knowledge management practices within the libraries of two institutions on the verge of a merger: Cape Technikon and Peninsula Technikon*. Stellenbosch: University of Stellenbosch.
- Kidwell, J. J., Vander Linde, K. M., & Johnson, S. L. (2000). Knowledge Management Practices. *EDUCAUSE Quarterly*(4), 28-33.
- King, D. N., & Ory, J. C. (1981). Effects of library instruction on student research: a case study. *College & Research Libraries*, 42(1), 31-41.

- Kingma, B., & McClure, K. (2014). Lib-Value: Values, Outcomes, and Return on Investment of Academic Libraries, Phase III: ROI of the Syracuse University Library. *College & Research Libraries*, crl13-485.
- Kline, R. (2005). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press.
- Koenig, M. E. D. (1997). Intellectual capital and how to leverage it. *Bottom Line: Managing Library Finances, The*, 10(3), 112-118.
- Koina, C. (2003). Librarians are the ultimate knowledge managers? *The Australian Library Journal*, 52(3), 269.
- Komanyane, K. (2010). *Knowledge Management Practices in the Public Sector in Botswana*. Department of Library and Information Science, University of the Western Cape.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30, 607-610.
- Krishnamurthy, V., & Balasubramani, R. (2012). Awareness of Knowledge Management among Librarians of Engineering Colleges Affiliated to Anna University of Technology, Coimbatore: A Study. *Journal of Advances in Library and Information Science*, 1(2), 84-87.
- Krishnan, N., & Das, C. (2012). Globalization and Challenges in Library Management in the 21 Century: An Appraisal of the University Library Systems in India and the USA. 381-385.
- Kuhn, T. S. (1970). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Kulthau, C. C. (1993). A principle of uncertainty for information seeking. *Journal of Documentation*, 49(4), 339-355.
- Kumar, A. (2010). Knowledge management and new generation of libraries information services: A concepts. *International Journal of Library and Information Science*, 1(2), 24-30.
- Lai, H., & Chu, T. (2000). *Knowledge management: a review of theoretical frameworks and industrial cases*. Paper presented at the Proceedings of the 33rd Annual Hawaii International Conference on System Sciences.

- Lai, H., & Chu, T. H. (2002). Knowledge management: A review of industrial cases. *Journal of Computer Information Systems*, 42(5), 1-10.
- Lee, H. W. (2005). Knowledge Management and the Role of Libraries. *Knowledge Management and the Role of Libraries*. Retrieved August 18, 2012, from <http://www.white-clouds.com/iclc/cliej/cl19lee.htm>
- Lee, T. P. (2010). *Role Conflict as Mediator of the Relationship Between Total Quality Management Practices And Role Ambiguity*. (Doctor of Philosophy), Multimedia University of Malaysia.
- LeFurgy, W. (2005). Building preservation partnerships: the library of congress national digital information infrastructure and preservation program. *Library trends*, 54(1), 163–172.
- Li, M., & Gao, F. (2003). Why Nonaka highlights tacit knowledge: a critical review. *Journal of Knowledge Management*, 7(4), 6-14.
- Lin, H.-F. (2007). Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions. *Journal of Information Science*, 33(2), 135-149.
- Lin, H., Gu, Z. Y., & Kawasaki, Y. (2004). Shanghai public libraries and lifelong education. *Lifelong education and libraries*, 4, 135-172.
- Lor, P. (2004). Storehouses of knowledge? The role of libraries in preserving and promoting indigenous knowledge. *Indilinga African Journal of Indigenous Knowledge Systems*, 3(1), p. 45-56.
- Loughridge, B. (1999). Knowledge management, librarians and information managers: fad or future? *New Library World*, 100(6), 245-253.
- Lowenthal, R. A. (1990). Preliminary Indications of the Relationship between Reference Morale and Performance. *RQ*, 29(3), 380-393.
- Lytras, M. D., Pouloudi, A., & Poulymenakou, A. (2002). Knowledge management convergence–expanding learning frontiers. *Journal of Knowledge Management*, 6(1), 40-51.
- M Saufi, C. R., Tasmin, R., & Takala, J. (2012). Knowledge Record and Knowledge Preservation: A Conceptual Framework of Knowledge Management Practice at Malaysian University Libraries. *International Journal of Information Technology and Business Management*, 3(1), 30-37.



- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual review of psychology*, 51(1), 201-226.
- Macewan, B. (1999). Understanding users' needs and making collections choices. *Library Collections, Acquisitions, and Technical Services*, 23(3), 315-320.
- MacWhinnie, L. A. (2003). The information commons: the academic library of the future. *Portal-Libraries and the Academy*, 3(2), 241-258.
- Maes, W. R. (2006). *Embedding Research and Learning in Libraries*. Paper presented at the 27th IATUL Conference, Universidade do Porto, 22-25 May 2006, Porto.
- Makani, J. (2008). Knowledge management and international organizations: Perspectives on information professionals' role. *Libri*, 58(4), 144-154.
- Malthouse, E. C., Oakley, J. L., Calder, B. J., & Iacobucci, D. (2004). Customer satisfaction across organizational units. *Journal of Service Research*, 6(3), 231-242.
- Mann, T. (2001). The importance of books, free access, and libraries as places--and the dangerous inadequacy of the information science paradigm. *The Journal of Academic Librarianship*, 27(4), 268-281.
- Maponya, P. M. (2004). *Knowledge management practices in academic libraries: a case study of the University of Natal, Pietermaritzburg Libraries*. Paper presented at the SCECSAL Proceedings.
- Mark, N., & Knakkegaard, L. (2004). Interlibrary lending and document supply: past, present and future. *Interlending & document supply*, 32(1), 41-46.
- Marques, D. P., & Simon, F. J. G. (2006). The effect of knowledge management practices on firm performance. *Journal of Knowledge Management*, 10(3), 143-156.
- Martensen, A., & Grønholdt, L. (2003). Improving library users' perceived quality, satisfaction and loyalty: an integrated measurement and management system. *The Journal of Academic Librarianship*, 29(3), 140-147.
- Martensen, A., Grønholdt, L., & Kristensen, K. (2000). The drivers of customer satisfaction and loyalty: cross-industry findings from Denmark. *Total Quality Management*, 11(4-6), 544-553.

- Martin, B., Hazeri, A., & Sarrafzadeh, M. (2006). Knowledge management and the LIS professions: investigating the implications for practice and for educational provision. *Australian Library Journal*, 55(1), 12.
- Martin, J. (2009). The art of librarianship. *College & Research Libraries News*, 70(11), 652-654.
- Marwick, A. D. (2001). Knowledge management technology. *IBM Systems Journal*, 40(4), 814-830.
- Maughan, P. D. (2001). Assessing information literacy among undergraduates: A discussion of the literature and the University of California-Berkeley assessment experience. *College & Research Libraries*, 62(1), 71-85.
- Mavodza, J. (2010). *Knowledge management practices and the role of an academic library in a changing information environment: the case of the Metropolitan college of the New York*. (Thesis Published), University of South Africa, Pretoria.
- Mavodza, J., & Ngulube, P. (2011). Exploring the use of knowledge management practices in an academic library in a changing information environment. *South African Journal of Libraries and Information Science*, 77(1), 15-25.
- Mavodza, J., & Ngulube, P. (2012). Knowledge management practices at an institution of higher learning. *SA Journal of Information Management*. Retrieved March 14th, 2013, from <http://www.sajim.co.za/index.php/SAJIM/article/view/496/584>
- McDougall, G. H., & Levesque, T. (2000). Customer satisfaction with services: putting perceived value into the equation. *Journal of Services Marketing*, 14(5), 392-410.
- McKemmish, S. (2001). Placing records continuum theory and practice. *Archival science*, 1(4), 333-359.
- Mehri, P., Farhad, D., & Rahmatollah, F. (2008). Identifying knowledge-sharing requirements in academic libraries. *Library review*, 57(2), 107-122.
- Mikulecká, J., & Mikulecky, P. (2000). *University knowledge management-issues and prospects*. Paper presented at the Principles of Data Mining and Knowledge Discovery 4th European Conference Proceedings, PKDD.
- Mikulecky, P., & Mikulecka, J. (1999). *Active Tools for Better Knowledge Dissemination*. Paper presented at the Proceedings of the ASIS Annual Meeting.

- Miller, D. C., & Salkind, N. J. (2002). *Handbook of research design and social measurement*. London: Sage Publications.
- Mills, A. M., & Smith, T. A. (2011). Knowledge management and organizational performance: a decomposed view. *Journal of Knowledge Management*, 15(1), 156-171.
- Millson-Martula, C., & Menon, V. (1995). Customer Expectations: Concepts and Reality for Academic Library Services. *College & Research Libraries*, 56(1), 33-47.
- Mohayidin, M. G., Azirawani, N., Kamaruddin, M. N., & Margono, M. (2007). The application of knowledge management in enhancing the performance of Malaysian universities. *The Electronic Journal of Knowledge Management*, 5(3), 301-312.
- Morris, A. (2001). *Knowledge management: opportunities for LIS graduates*. Paper presented at the 67th IFLA Council and General Conference, Boston.
- Muhammad, N., Rahman, B. A., Rahman, W. Z. A., Asma'Rashidah Idris, S. M. S., & Jusoff, K. (2011). Knowledge Management Practices (KMP) and Academic Performance in Universiti Teknologi Mara (UITM) Terengganu, Malaysia. *World Applied Sciences Journal 12 (Special Issue on Creating a Knowledge Based Society)*, 12, 21-26.
- Naidoo, D. (2002). *Organizational culture and subculture influences on the implementation and outcomes of aspects on internal quality assurance initiates*. [http](#). Paper presented at the International Conference of the Higher Education Research and Development Society of Australasia (HERDSA), Perth, Western Australia.
- Naikal, A., & Paloti, R. (2003). *Role of libraries in knowledge management*. Paper presented at the IASLIC national conference D Dun.
- Nake, F. (2002). Data, information, and knowledge. *Organizational Semiotics*, 3, 1-10.
- Namondwe, T. (2011). *Implementing Knowledge Management in Academic Libraries: A Comparative Case Study of the Kamuzu College of Nursing and Bunda College of Agriculture Libraries*. University of Cape Town.
- Narasimhan, R., Swink, M., & Kim, S. W. (2005). An exploratory study of manufacturing practice and performance interrelationships: Implications for

- capability progression. *International Journal of Operations & Production Management*, 25(10), 1013-1033.
- Nassuora, A. (2011). Knowledge Sharing in Institutions of Higher Learning. *American Academic & Scholarly Research Journal (AASRJ)*, 1(1), 29-34.
- Navarro, M. M., Iglesias, M. P., & Torres, P. R. (2005). A new management element for universities: satisfaction with the offered courses. *International Journal of Educational Management*, 19(6), 505-526.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, 14-37.
- Nonaka, I., Byosiore, P., Borucki, C. C., & Konno, N. (1994). Organizational knowledge creation theory: A first comprehensive test. *International Business Review*, 3(4), 337-351.
- Nonaka, I., & Nishiguchi, T. (2001). *Knowledge emergence: Social, technical, and evolutionary dimensions of knowledge creation*. USA: Oxford University Press.
- Nonaka, I., & Takeuchi, H. (1991). The knowledge-creating company. *Harvard business review*, 85(7/8), 162.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. USA: Oxford University Press.
- Nonaka, I., & Teece, D. J. (2001). *Managing industrial knowledge: Creation, transfer and utilization*. London: Sage Publications.
- Nonaka, I., & Toyama, R. (2003). The knowledge-creating theory revisited: Knowledge creation as a synthesizing process. *Knowledge Management Research & Practice*, 1(1), 2-10.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and leadership: A unified model of dynamic knowledge creation. *Long range planning*, 33(1), 5-34.
- Nonaka, I., Toyama, R., & Nagata, A. (2000). A firm as a knowledge-creating entity: A new perspective on the theory of the firm. *Industrial and corporate change*, 9(1), 1-20.
- Nonaka, I., von Krogh, G., & Voelpel, S. (2006). Organizational knowledge creation theory: Evolutionary paths and future advances. *Organization studies*, 27(8), 1179-1208.

- Ogunsola, L. (2011). The Next Step in Librarianship: Is The Traditional Library Dead? *Library Philosophy and Practice*(1), 42.
- Okore, A., & Ekere, J. (2008). *Information Professionals and Knowledge Management in Global Library and Information Services*. Paper presented at the 46th National Conference and Annual General Meeting of the Nigerian Library Association, Nigeria.
- Omekwu, C. O. (2006). Managing information and technology: critical roles for librarians in developing countries. *Electronic Library, The*, 24(6), 847-863.
- Ong, C. S., & Lai, J. Y. (2004). *Developing an instrument for measuring user satisfaction with knowledge management systems*. Paper presented at the Proceedings of the 37th Hawaii International Conference on System Sciences.
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The qualitative report*, 12(2), 281-316.
- Owiny, S. A., Mehta, K., & Maretzki, A. N. (2014). The Use of Social Media Technologies to Create, Preserve, and Disseminate Indigenous Knowledge and Skills to Communities in East Africa. *International Journal of Communication*, 8, 14.
- Ozlen, K., & Handzic, M. (2014). An empirical test of a contingency model of KMS effectiveness. *Knowledge Management Research & Practice*, 12(1), 1-11.
- Palacios-Marques, D., Gil-Pechuán, I., & Lim, S. (2011). Improving human capital through knowledge management practices in knowledge-intensive business services. *Service Business*, 5(2), 99-112.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.
- Parent, M., Gallupe, R. B., Salisbury, W. D., & Handelman, J. M. (2000). Knowledge creation in focus groups: can group technologies help? *Information & Management*, 38(1), 47-58.
- Parirokh, M., Daneshgar, F., & Fattahi, R. (2008). Identifying knowledge-sharing requirements in academic libraries. *Library review*, 57(2), 107-122.



- Parirokh, M., & Fattahi, R. (2006). *Knowledge Sharing Capabilities in Today's University Libraries: A proposed model for evaluation*. Paper presented at the 72nd IFLA General Conference and Council, Seoul, Korea.
- Parirokh, M., & Fattahi, R. (2009). A theoretical framework for development of a customer knowledge management system for academic libraries. *Spanish Journal of Agricultural Research*, 1-16.
- Parker, K. R., Nitse, P. S., & Flowers, K. A. (2008). Libraries as knowledge management centers. *Library Management*, 26(4), 176-189.
- Peng, K. A., & Awang, N. H. (2010). Laporan Kajian Kepuasan Pengguna Perpustakaan Universiti Malaya 2008. *Kekal Abadi*, 28(1), 19-24.
- Pengshan, Y., & Yongqin, T. (2011). *The model of tacit knowledge sharing and the importance of library in the course*. Paper presented at the IEEE 2nd International Conference on Software Engineering and Service Science (ICSESS)
- Polanyi, M. (1997). *The tacit dimension* (L. In Prusak Ed.). Boston: Butterworth-Heinemann.
- Powell, R. R., Baker, L. M., & Mika, J. J. (2002). Library and information science practitioners and research. *Library & information science research*, 24(1), 49-72.
- Probst, G. J. B. (1998). Practical knowledge management: A model that works. *PRISM-CAMBRIDGE MASSACHUSETTS*-, 17-30.
- Profera, E. L., & Shieh, J. (2014). Meeting User Needs and Expectations: A Library's Quest for Discovery.
- Quintas, P. (2003). *Managing knowledge in practice*. France: OECD Publications.
- Rajurkar, M. (2011). Knowledge Management in Academic Libraries. *International Journal of Parallel and Distributed Systems*, 1(1), 05-08.
- Ranft, A. L. (2006). Knowledge preservation and transfer during post-acquisition integration. *Advances in Mergers and Acquisitions*, 5, 51-67.
- Ranft, A. L., & Lord, M. D. (2003). Acquiring new technologies and capabilities: A grounded model of acquisition implementation. *QUALITY CONTROL AND APPLIED STATISTICS*, 48(5), 581-584.
- Ray, K. L. (2001). *The postmodern library in an age of assessment*. Paper presented at the ACRL Tenth National Conference, Denver, Colorado.

- Reid, I. C. (2000). The web, knowledge management and universities. from <http://ausweb.scu.edu.au/aw2k/papers/reid/paper.html>
- Richardson, J. V. (1995). *Knowledge-based systems for general reference work: Applications, problems, and progress*. Orlando: Academic Press.
- Richter, H., Abowd, G., Miller, C., & Funk, H. (2004). Tagging knowledge acquisition sessions to facilitate knowledge traceability. *International Journal of Software Engineering and Knowledge Engineering*, 14(1), 3-19.
- Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.
- Robinson, H. S., Carrillo, P. M., Anumba, C. J., & Al-Ghassani, A. M. (2005). Knowledge management practices in large construction organisations. *Engineering, Construction and Architectural Management*, 12(5), 431-445.
- Roknuzzaman, M., & Umemoto, K. (2009a). How library practitioners view knowledge management in libraries: A qualitative study. *Library Management*, 30(8/9), 643-656.
- Roknuzzaman, M., & Umemoto, K. (2009b). *Knowledge management education in library and information science schools: an exploratory study*. Paper presented at the Asia-Pacific Conference on Library & Information Education & Practice.
- Roszkowski, M. J., Baky, J. S., & Jones, D. B. (2005). So which score on the LibQual+™ tells me if library users are satisfied? *Library & information science research*, 27(4), 424-439.
- Roth, P. L., & BeVier, C. A. (1998). Response rates in HRM/OB survey research: Norms and correlates, 1990-1994. *Journal of Management*, 24(1), 97-117.
- Rouse, J. (2002). Kuhn's philosophy of scientific practice. *Division I Faculty Publications*. from <http://wescholar.wesleyan.edu/div1facpubs/18>
- Rowley, J. (1999). What is knowledge management? *Library Management*, 20(8), 416-420.
- Rowley, J. (2003). Knowledge management—the new librarianship? From custodians of history to gatekeepers to the future. *Library Management*, 24(8/9), 433-440.
- Rowley, J. (2006). Where is the wisdom that we have lost in knowledge? *Journal of Documentation*, 62(2), 251-270.



- Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of retailing*, 69(2), 193-215.
- Rusuli, C., Saufi, M., Tasmin, R., Hashim, N., Zin, M., & Narosid, B. (2011). Linkage between knowledge management practices and library users' satisfaction at Malaysian universities.
- Rusuli, M. S. C., Tumari, M. N. H. M., Shukor, M. H. A., & Zin, B. N. M. (2011). *Kajian Kepuasan Pelanggan Di Perpustakaan UTHM Dalam Meningkatkan Kualiti Perkhidmatan: Satu Tinjauan*. Paper presented at the Prosiding Seminar Kebangsaan Perpustakaan Akademik 2011, Hotel Grand Riverview, Kelantan.
- Saatcioglu, O. Y., Ozmen, O. N. T., & Eriş, E. D. (2012). A study on knowledge management and firm performance in Turkish IT sector. *International Journal of Logistics Systems and Management*, 11(2), 213-231.
- Sahin, I., & Shelley, M. (2008). Considering students' perceptions: The distance education student satisfaction model. *Educational Technology & Society*, 11(3), 216-223.
- Santo, S. A. (2005). Knowledge management: An imperative for schools of education. *TechTrends*, 49(6), 42-49.
- Saracevic, T. (2008). *A general course in digital libraries: A case study*.
- Sarrafzadeh, M. (2008). *The implications of knowledge management for the library and information professions*. RMIT University.
- Sarrafzadeh, M., Martin, B., & Hazeri, A. (2006). LIS professionals and knowledge management: some recent perspectives. *Library Management*, 27(9), 621-635.
- Sarrafzadeh, M., Martin, B., & Hazeri, A. (2010). Knowledge management and its potential applicability for libraries. *Library Management*, 31(3), 198-212.
- Sauerwein, E., Bailom, F., Matzler, K., & Hinterhuber, H. H. (1996). *The Kano model: How to delight your customers*. Paper presented at the International Working Seminar on Production Economics.
- Saufi, M., Rusuli, C., Tasmin, R., & Takala, J. (2012). A Theoretical Study Of The Sand Cone Model And Knowledge Management From Malaysian University Libraries Perspective. *International Journal of Information Technology and Business Management*, 1(1), 1-8.

- Schonberger, R. J. (1990). *Building a Chain of Customers: Linking Business Functions to Create the World Class Company*. Hutchinson, London.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323-338.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). London: Lawrence Erlbaum Associates.
- Shanhong, T. (2002). Knowledge Management in Libraries in the 21<sup>st</sup> Century. *IFLA publications*, 102, 88-93.
- Shen, Y. (2013). Information seeking in academic research: A study of the Sociology Faculty at the University of Wisconsin-Madison. *Information Technology and Libraries*, 26(1), 4-13.
- Sheth, J. N., Mittal, B., Newman, B. I., & Sheth, J. N. (2004). *Customer behavior: A managerial perspective*. Ohio: South-Western.
- Shoid, M. S. M., & Kassim, N. A. (2014). Exploring the Effect of Organizational Learning Capabilities (OLC) on Knowledge Performance. *World Applied Sciences Journal*, 29(12), 1544-1549.
- Shook, C. L., Ketchen, D. J., Hult, G. T. M., & Kacmar, K. M. (2004). An assessment of the use of structural equation modeling in strategic management research. *Strategic management journal*, 25(4), 397-404.
- Siddike, A. K., Munshi, N., & Sayeed, A. (2011). *The Adoption of Information and Communication Technology (ICT) in the University Libraries of Bangladesh: An Exploratory Study*. Paper presented at the International Seminar "Vision 2021".
- Simmonds, P. L., & Andaleeb, S. S. (2001). Usage of Academic Libraries: The Role of Service. *Library trends*, 49(4), 626-634.
- Singh, R. (2012). *Knowledge Management Practices In Academic Libraries*. Paper presented at the National Conference.
- Sinotte, M. (2004). Exploration of the field of knowledge management for the library and information professional. *LIBRI-COPENHAGEN*, 54, 190-198.
- Skyrme, D., & Amidon, D. (1997). The knowledge agenda. *Journal of Knowledge Management*, 1(1), 27-37.

- Smith, T. A., Mills, A. M., & Dion, P. (2010). linking business strategy and Knowledge Management Capabilities for organizational effectiveness. *International Journal of Knowledge Management (IJKM)*, 6(3), 22-43.
- Somerville, M. M., & Collins, L. (2008). Collaborative design: a learner-centered library planning approach. *Electronic Library, The*, 26(6), 803-820.
- Spiegler, I. (2003). Technology and knowledge: bridging a “generating” gap. *Information & Management*, 40(6), 533-539.
- Sriram, B., & Rajev, M. (2014). Impact of Academic Library Services on User Satisfaction: Case Study of Sur University College, Sultanate of Oman. *DESIDOC Journal of Library & Information Technology*, 34(2), 140-146.
- Stamatoplos, A., & Mackoy, R. (1998). Effects of Library Instruction on University Students’ Satisfaction with the Library: A Longitudinal Study. *College & Research Libraries*, 59(4), 322-333.
- Stenmark, D. (2001). *The relationship between information and knowledge*. Paper presented at the The Relationship between Information and Knowledge in Proceedings of IRIS 24, Ulvik, Norway.
- Stoffle, C. (1996). The Emergence of Education and Knowledge Management as Major Functions of the Digital Library, Follett Lecture Series, University of Wales Cardiff, 13 November 1996.
- Straw, E. M. (2013). *Construction of a Conceptualization of Personal Knowledge within a Knowledge Management Perspective using Grounded Theory Methodology*. Nova Southeastern University.
- Tabachnick, B. G., & Fidell, L. S. (2007). Using Multivariate Statistics: Pearson Education Inc. *Boston, MA*.
- Takala, J., Leskinen, J., Sivusuo, H., Hirvelä, J., & Kekäle, T. (2006). The sand cone model: illustrating multi-focused strategies. *Management Decision*, 44(3), 335-345.
- Takeuchi, H. (1998). Beyond knowledge management: Lessons from Japan. *MONASH MT ELIZA BUSINESS REVIEW*, 1, 21-29.
- Tandale, P. G., Sawant, P. G., & Tandale, G. P. (2011). *Knowledge Management and the Role of Libraries*. Paper presented at the Proceedings of the 5th National Conference INDIACom-2011, New Delhi, India.
- Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social & behavioral research*. London: Sage Publications.

- Tasmin, R. (2008). *Knowledge Management Practices and Innovation Activities Among Large Manufacturers in Peninsular Malaysia* Doctoral Thesis, Multimedia University
- Tasmin, R., & Woods, P. (2007). Relationship between corporate knowledge management and the firm's innovation capability. *International Journal of Services Technology and Management*, 8(1), 62-79.
- Tasmin, R., & Woods, P. (2008). *Knowledge management and innovation in Peninsular Malaysia*. Paper presented at the Proceedings on Knowledge Management International Conference 2008 (KMICE 2008), Universiti Utara Malaysia.
- Teh, P. L., & Yong, C. C. (2011). Knowledge sharing in is personnel: Organizational behavior's perspective. *Journal of Computer Information Systems*, 51(4), 11.
- Thenmozhi, N., & Gopalakrishnan, S. (2014). Measurement of Performance and University Libraries in Tamil Nadu: A Study on Certain Areas of Library Functions. *Journal of Advances in Library and Information Science*, 3(1), 21-29.
- Tomarken, A. J., & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations, and misconceptions. *Annu. Rev. Clin. Psychol.*, 1, 31-65.
- Townley, C. T. (2001). Knowledge management and academic libraries. *College & Research Libraries*, 62(1), 44-55.
- Tripathy, J. K., Patra, N. K., & Pani, M. R. (2007). Leveraging knowledge management: challenges for the information professional. *DESIDOC Journal of Library & Information Technology*, 27(6), 65-73.
- Tubigi, M., Alshaw, S. N., & Alalwany, H. (2013). Impact of Knowledge Management Processes on Organisational Performance; a Preliminary Study.
- Tumuhairwe, G. K. (2013). *Analysis of Library and Information Science/Studies (LIS) education today: the inclusion of indigenous knowledge and multicultural issues in LIS Curriculum*. Paper presented at the IFLA World Library and Information Congress, Singapore.
- Tyckoson, D. A. (1992). Wrong Questions, Wrong Answers. *The Reference Librarian*, 17(38), 151-173.
- Tyler, K., & Hastings, N. B. (2011). Factors Influencing Virtual Patron Satisfaction with Online Library Resources and Services. *Journal of Educators Online*, 8(2), n2.

- Upward, F. (2000). Modelling the continuum as paradigm shift in recordkeeping and archiving processes, and beyond of a personal reflection. *Records Management Journal*, 10(3), 115-139.
- Von Hippel, E. (1986). Lead users: A source of novel product concepts. *Management science*, 32(7), 791-805.
- Vukmir, R. B. (2006). Customer satisfaction. *International Journal of Health Care Quality Assurance*, 19(1), 8-31.
- Wabwezi, A. (2011). *The role of knowledge sharing in fostering innovation in higher education: a case study of Tallinn University*. (Master Dissertation), Høgskolen i Oslo. Avdeling for journalistikk, bibliotek-og informasjonsvitenskap.
- Wagner, W., Otto, J., & Chung, Q. (2002). Knowledge acquisition for expert systems in accounting and financial problem domains. *Knowledge-Based Systems*, 15(8), 439-447.
- Wamundila, S. (2009). *Developing guidelines for a knowledge management policy to enhance knowledge retention at the University of Zambia*. (Master Dissertation).
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115-131.
- Wang, S. L., Wu, C. H., Perng, C., & Tsai, J. T. (2009). *An examination of library use for improving services on the IT impact*. Paper presented at the International Conference on Virtual Environments, Human-Computer Interfaces and Measurements Systems (VECIMS 2009), Hong Kong, China.
- Wang, W. H. (2005). *An overview of technology trends and innovation potential in recording, storing, dissemination, presentation, application and creation of knowledge*. Paper presented at the Emerging Information Technology Conference.
- Webb, K. M., Schaller, M. A., & Hunley, S. A. (2008). Measuring Library Space Use and Preferences: Charting a Path toward Increased Engagement. *portal: Libraries and the Academy*, 8(4), 16.
- Wen, S. (2005). Implementing knowledge management in academic libraries: a pragmatic approach. *Ann Arbor*. 1001, from <http://www.white-clouds.com/iclc/cliej/cl19wen.htm>



- Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, 34(5), 719-751.
- White, T. (2004). *Knowledge management in an academic library case study: KM within Oxford University Library Services (OULS)*. Paper presented at the World Library and Information Congress: the 70th IFLA General Conference and Council, Buenos Aires, Argentina.
- Wiewiora, A., Trigunarsyah, B., Murphy, G., & Coffey, V. (2013). Organizational culture and willingness to share knowledge: a competing values perspective in Australian context. *International Journal of Project Management*, 31(2013), 1163–1174.
- Wiig, K. M. (1997). Knowledge management: Where did it come from and where will it go? *Expert systems with applications*, 13(1), 1-14.
- Williams, A., Giuse, N., Koonce, T., Kou, Q., & Giuse, D. (2004). Using knowledge management practices to develop a state-of-the-art digital library. *MedInfo*, 11(1), 99-103.
- Yaacob, R. A., Jamaluddin, A., & Jusoff, K. (2011). Knowledge Management and Challenging Roles of Academic Librarians. *Management Science and Engineering*, 4(4), 14-23.
- Yu, T. S. (2003). Can East Asia rise again? *Journal of Asian Economics*, 13(6), 715-729.
- Zack, M. (1998). *What Knowledge-Problems Can Information Technology Help to Solve?* Paper presented at the Proceedings of the Americas Conference of AIS, August 1998. 644-646
- Zack, M. H. (1999). Managing codified knowledge. *Sloan management review*, 40(4), 45-58.
- Zaied, A. N. H. (2012). An Integrated Knowledge Management Capabilities Framework for Assessing Organizational Performance. *International Journal of Information Technology and Computer Science (IJITCS)*, 4(2), 1.
- Zaim, H., Tatoglu, E., & Zaim, S. (2007). Performance of knowledge management practices: a causal analysis. *Journal of Knowledge Management*, 11(6), 54-67.
- Zikmund, W. G., Carr, J. C., & Griffin, M. (2012). *Business research methods* (9th ed.). Mason, OH: Cengage Learning.

Zins, C. (2007). Conceptual approaches for defining data, information, and knowledge. *Journal of the American Society for Information Science and Technology*, 58(4), 479-493.

